

## CLAIMS

What is claimed is:

1. A method for forming a channel device comprising the steps of:

- 2           a) providing at least one active region on a substrate wherein the active  
3           region comprises a plurality of discontinuous gate structures; and  
4           b) providing an ion implantation in the substrate.

1. 2. The method of claim 1 wherein step b) further comprises:

- 2           b1) masking the plurality of gate structures prior to the ion implantation.

1. 3. The method of claim 2 wherein the active region comprises three gate

2           structures.

1. 4. The method of claim 3 wherein each of the three gate structures comprises a

2           channel length of at least  $0.13\mu\text{m}$  disposed at least  $0.2\mu\text{m}$  apart.

1. 5. The method of claim 1 wherein the ion implantation comprises a lightly doped

2           drain implant.

1. 6. The method of claim 5 wherein the ion implantation further comprises a halo

2           implant.

1           7. The method of claim 5 wherein the ion implantation further comprises a pocket  
2           implant.

1           8. The method of claim 1 wherein each of the plurality of discontinuous gate  
2           structures are connected to a gate voltage source.

1           9. A system for forming a channel device comprising:  
2                 means for providing at least one active region on a substrate wherein the active  
3                 region comprises a plurality of gate structures; and  
4                 means for providing an ion implantation in the substrate.

1           10. The system of claim 9 wherein means for providing the ion implantation further  
2           comprises:  
3                 means for masking the plurality of gate structures prior to the ion implantation.

1           11. The system of claim 10 wherein the active region comprises three gate  
2           structures.

1           12. The system of claim 11 wherein each of the three gate structures comprises a  
2           channel length of at least 0.13 $\mu$ m disposed at least 0.2 $\mu$ m apart.

1           13. The system of claim 10 wherein the ion implantation comprises a lightly doped  
2           drain implant.

1           14. The system of claim 13 wherein the ion implantation further comprises a halo  
2           implant.

1           15. The system of claim 13 wherein the ion implantation further comprises a pocket  
2           implant.

1           16. The system of claim 9 wherein each of the plurality of discontinuous gate  
2           structures are connected to a gate voltage source.